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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,708	11/09/2001	Kris Alan Schmidt	USA.263-1	8429 3.
7590	07/11/2003			EXAMINER
Ralph D'Alessandro 3D Systems, Inc. 26081 Avenue Hall Valencia, CA 91355				EGWIM, KELECHI CHIDI
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/010,708	SCHMIDT, KRIS ALAN
Examiner	Art Unit	
Dr. Kelechi C. Egwim	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**P r i d for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 09 November 2001.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disp sition of Claims**

4) Claim(s) 1-17 is/are pending in the application.

4a) Of the above claim(s) 12-17 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-11 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) 1-17 are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2

4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-11, drawn to a formulation, classified in class 524, subclass 398.
  - II. Claims 12-17, drawn to a method of preparing an infiltrated green part, classified in class 264, subclass 670.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product is useful in a variety of metal coating processed outside infiltration.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Ralph D'Alessandro on 6/18/03, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3-5, 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The members of the Markush groups recited in claims 3 and 8, from one of which claims 4, 5 or 9 depend, are indefinite.

For one, the member "two-part epoxy" is not consistent with the group description of "at least one polymer". Usually a two-part epoxy mix is not a polymer or polymers but a mixture of reactive monomeric species. A two-part epoxy mix would at least have to contain so type of curing agent, which would not be in the same formulation or else it would no longer be a "two part epoxy". It is unclear what the "two-part epoxy" represents as a member of the group "at least one polymer".

Also the "partial 2-butoxy/ethyl ester" and "partial sec-butyl/methyl ester" substituants of the poly(styrene-co-maleic acid) polymers render the claims indefinite. It is unclear what applicant means by the "/" between the substituants groups. Are these mixed ester, alternating ester or alternative esters. The members of the group are indefinite.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 2, 6, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishihara et al. (USPN 4,929,507).

In col. 2, lines 16-58 and col. 3, lines 52-55, Nishihara et al. teach a formulation comprising a zirconate or titanate organometallic polymer combined with an inorganic filler such as zirconium oxide in a suitable solvent.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

11. Claims 1-3, 6-8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Goetz et al. (USPN 5,648,407).

In col. 2, lines 58-62, col. 5, lines 20-22 and col. 6, lines 33-38, Goetz et al. teach a formulation comprising a polymer, a metal oxide such as zirconium oxide, an organic solvent such as a ketone, and an agent such as an organotitanate.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

12. Claims 1-3, 6-8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Carnahan et al. (USPN 3,947,277).

In col. 2, lines 43-48, col. 4, lines 12-20, col. 5, lines 20-23, and col. 6, lines 22-44, Carnahan et al. teach a formulation comprising a polymer, a metal oxide such as zirconium oxide, solvent, and pyrolyzed substances such as organometallic compounds.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

13. Claims 6, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al. (USPN 5,576,370).

In the abstract and col. 5, lines 21-65, Shimizu et al. teach a formulation comprising a polymer, an inorganic filler such as zirconium oxide and a solvent such as acetone.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

14. Claims 6, 8, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bilkadi (USPN 5,914,162).

In col. 7, lines 26-51 and col. 8, lines 20-27, Bilkadi teaches a formulation comprising a polymer, zirconium oxide and a suitable solvent.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

15. Regarding the intended use recited in the claims, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kelechi C. Egwim whose telephone number is (703) 306-5701. The examiner can normally be reached on M-T (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Art Unit: 1713

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.



KCE  
July 2, 2003